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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/759,247	01/16/2001	Katsumi Marukawa	500.39507X00	1022

24956 7590 04/06/2005

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SUITE 370  
ALEXANDRIA, VA 22314

EXAMINER
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ARANI, TAGHI T

ART UNIT	PAPER NUMBER
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2131

DATE MAILED: 04/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/759,247

Applicant(s)

MARUKAWA, KATSUMI

Examiner

Taghi T. Arani

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 02 December 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-7 and 15-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 15-19 is/are rejected.
- 7) ☒ Claim(s) 7 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

1. Claims 1-7, 15-19 are pending.

Claims 1 and 15 are amended.

### **Response to Arguments**

2. Applicant's amendment filed 12/02/2004 necessitated the new ground(s) of rejection presented in this Office action. Accordingly, THIS ACTION IS MADE FINAL.

See MPEP 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. **Claims 1-6, 15-19** are rejected under 35 U.S.C. 103(a) as being unpatentable over Prior art of record, Schneier (Applied Cryptography) in view of Barton (USP 5, 912,972).

**As per claim 1**, Schneier teaches:

a data transmission step on said data

transmission side; and

a data reception step on said data reception side;

wherein said data transmission step comprises:

a second step of applying a digital signature to said original image

so as to produce first signed data (pg. 37), a third step of ciphering said first signed data

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with a public key of said data reception side so as to produce a ciphered signed data (pg. 41),

Schneier is silent on a first step of processing said original image so as to produce partial image,

a fourth step of merging said partial image and said first signed data, applying a one-way function to the merged data , and ciphering an output of said one-way function with a secret key of said data transmission side so as to obtain second signed data, and a fifth step of transmitting said partial image, said second signed data and said ciphered signed data to said data reception.

Barton teaches a first step of processing said original image so as to produce partial image (col. 6, line 66 -67),

Barton teaches a fourth step of merging said partial image and said first signed data, applying a one-way function to the merged data , and ciphering an output of said one-way function with a secret key of said data transmission side so as to obtain second signed data , and a fifth step of transmitting said partial image, said second signed data and said ciphered signed data to said data reception ( col. 7, lines 4-46, steps 3-6).

It would have been obvious to one of ordinary skill at the time of the invention to combine the teaching of Schneier with Barton's embedding authentication information within digital data to avoid detection by casual observer and eavesdropper and to allow a user to determine whether the digital data have been modified from their intended form ( Barton, col. 1, lines 14-20) .

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It would have also been obvious to one of ordinary skill in the art at the time of the invention to perform the undoing of this cryptographic steps at the receiver to prove validity of the transmitted data. Each step performed at the receiver is known in the art at the reciprocal step to each of the taught steps for the sender. The receiver (Bob) on page 38 performs the comparison to the received hash, as it is well known in the art ( see also Barton, col. 7, lines 65 through col. 8, lines 27 for the steps of retrieval process).

**As per claim 2**, Schneier is silent as to teaching the documents is scanned. However, it would have been obvious to one of ordinary skill in the art at the time of the invention to first scan a document because scanning is a well known manner in which to digitize documents (Barton, lines 40-47).

**As per claim 3**, Schneier teaches written information includes a string of characters (pg. 38).

**As per claim 4**, Schneier teaches first signed data in said second step includes signed data obtained by applying a digital signature to data relating to said original image (pg. 40).

**As per claim 15**, Schneier as modified teaches the steps performed by the transmission apparatus of claim 15 in the method of claim 1. Therefore Schneier anticipates the apparatus itself.

**As per claim 16**, Schneier teaches first digital signature includes a digital signature obtained by ciphering data relating to said original image with said first secret key (page 38, Alice encrypts the hash with her private key).

**As per claim 19**, Schneier is silent in disclosing the documents is scanned. However, it would have been obvious to one of ordinary skill in the art at the time of the invention to first scan a document because scanning is a well known manner in which to digitize documents (Barton, lines 40-47).

**As per claims 5 and 17**, Schneier is silent in disclosing using the volume of data. Barton teaches using the volume of data (col. 2, lines 64-67). In view of this it would have been obvious to one of ordinary skill in the art at the time of the invention to employ the teachings of Barton within the system Schneier because the volume of data would be enough to represent the entire document without having to use of the bits.

**As per claims 6 and 18**, Schneier is silent in disclosing using the black pixels as the identifying data. Barton teaches using the pixel characteristics of the digitized documents ( col. 10, lines 39-51) as identifying data. The number of black pixel would be one of these characteristics. In view of this it would have been obvious to one of ordinary skill in the art at the time of the invention to employ the teachings of Barton within the system of Schneier because it would identify the original document.

***Allowable Subject Matter***

Claim 7 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

**Action is Final**

**THIS ACTION IS FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

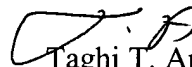
### **Conclusion**


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Taghi T. Arani whose telephone number is (571) 272-3787. The examiner can normally be reached on 8:00-5:30 Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ayaz Sheikh can be reached on (571) 272-3795. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Taghi T. Arani, Ph.D.  
Examiner  
Art Unit 2131

  
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